AWIPS SOFTWARE INSTALLATION INSTRUCTION NOTE 48
(for Electronics Systems Analysts, Information Technology Officers, and AWIPS Focal Points)
Maintenance, Logistics, and Acquisition Division
W/OPS12: JCS

SUBJECT	:	Maintenance Release OB3.1
PURPOSE	:	To provide installation instructions for Maintenance Release OB3.1.
AFFECTED SITES	:	All AWIPS sites must install this maintenance release.
PREINSTALLATION REQUIREMENTS	:	AWIPS Software Release OB3 must be installed. IFPS 15.3v2 must be installed at all WFO sites.
AUTHORIZATION	:	The authority for this modification note is Request for Change AB983. MROB3_SEC_A100510
SECURITY LEVEL	:	root
ESTIMATED TIME REQUIRED	:	Approximately 40 to 60 minutes, depends on the number of workstations.
EFFECT ON OTHER INSTRUCTIONS	:	File this note in EHB-13, section 3.1. Discard all previous software installation instructions, prior to Build OB1 (AWIPS Software Installation Instruction Note 37) in section 3.1.
VERIFICATION STATEMENT	:	The Maintenance Release OB3.1 installation procedures were tested and verified at Silver Spring, MD (NMT systems), Bismark, ND (BIS), Charleston, SC (CHS), Columbia, SC (CAE), Hastings, NE (GID), Midland, TX (MAF), Newport, NC (MHX), Pacific Region Headquarters, HI (PBP), Raleigh, NC (RAH), and Shreveport, LA (SHV).
TECHNICAL SUPPORT	:	For questions or problems regarding these installation instructions or installing this release, please contact the NCF at 301-713-9344.

GENERAL:

MROB3.1 Deficiency Reports (DR) Summary

1. Watch Warning Advisory (WWA) xmit window needs a level of quality control (DR_13590)
2. WWA: Proposed products not showing up in Monitor (DR_13633)
3. WWA: Intersite prepwork functionality for new status struct field (DR_13651)
4. WWA: New field requirement for VTEC string (DR_13661)
5. WWA: Allow products to be issued out to Day 7 (DR_13756)
6. Update RiverPro for VTEC Spec changes (DR_13881)
7. Implement WarnGen VTEC (DR_13882)
8. MHS `rcv_handler.tbl` update needed (DR_13929)
9. WWA: ProdExp time not updating in Composer (DR_13868)
10. PX Security patch WuFtpd CAN-2003 vulnerability (DR_14080)
11. Three 4-panel radar products cannot be displayed (DR_13989)
12. Problem with All Tilts Z/SRM8 load (DR_13990)
13. Workstation `/tmp` directory filling up with zero byte files from D2D (DR_14022)
14. Data dropouts (missing images) in loops with 4 and 8-bit reflectivity (DR_14032)
15. WWA: WWA crash if template file missing (DR_14039)
16. WWA: H-VTEC requirement change (DR_14045)
17. QC check fo new H-VTEC format (DR_14046)
18. WWA: Transmit window modifications (DR_14153)
19. Test ship reports should be ignored by the System on AWIPS for Forecasting and Evaluation of Seas and Lakes (SAFESEAS).(DR_14316)
20. `createSSsetup` crashes at some WFOs along the Canadian/Mexican border (DR_14322)
21. Problem with RFC .dpt file (DR_14320)
22. TextDB reader crashes (DR_14353)
23. The local warning performance issue (DR_14324)
24. Listner changes of rcp to scp slowing ingest/dissemination of LDAD data at OB3 sites (DR_14348)
25. `/data/fxa_local` filling up (DR_14373)
26. No ITO alarms to the NCF for PX failovers (DR_14349)
27. `db_purge` failing to delete radar files (DR_14366)
28. Random WarnGen warnings do not appear in the WarnGen followup list (DR_14374)

ROB3.1 Detailed Description

Maintenance Release OB3.1 delivers VTEC enhancements for WWA, WarnGen and RiverPro. The release also includes fixes for problems discovered in OB3.0 and installs some security patches.

1. WWA xmit window needs a level of quality control (DR_13590)

   The WWA xmit window needs a level of quality control (QC) that locks the forecaster out of editing restricted fields. QC parsing is also developed to ensure correct product formatting once the Send button is selected.

2. WWA: Proposed products not showing up in monitor (DR_13633)

   When creating a proposed product, it does not show up in the monitor. However, it is pushed to the adjacent sites.

3. WWA: Intersite prepwork functionality for new status struct field (DR_13651)

   In order to keep intersite working between build OB3 & OB4, some preparation is needed to establish the `wwa_receive` function. Maintenance Release OB3.1 `wwa_receive` contains an algorithm that identifies and processes the larger OB4 status structure passed to the OB3 site during the intersite.

4. WWA: New field requirement for VTEC string (DR_13661)

   A new field has been added to the VTEC string which defines the product class as either: o = operational, t = test, e = experimental. The product class would be user selectable with a configurable default setting for each hazard.

5. WWA: Allow products to be issued out to day 7 (DR_13756)

   A new NWS directive allows for outlook-type products to be issued out to seven days in advance of the actual event. The WWA composer currently only allows products to be created up to 99 hours in advance which is only four days. The limit is increased to meet the directive.

6. Update RiverPro for VTEC Spec changes (DR_13881)

   Recent changes to the VTEC spec and procedures, as outlined in directive 10-1703, require RiverPro to be updated to meet these requirements.

7. Implement WarnGen VTEC (DR_13882)

   Valid Time and Event Code is being implemented on all WarnGen NWS watch and warning products. The code will be automatically generated by warngen for SVR, TOR, FFW, and SMW products as well as corresponding follow up statements. To reduce errors in these critical products, automatic quality control of these products is also being implemented.

8. MHS `rcv_handler.tbl` update needed (DR_13929)

   The fix is a prerequisite for IFPS 16.0. This allows particular ISC traffic requests/configurations to occur between AWIPS sites.

9. WWA: ProdExp time not updating in Composer (DR_13868)

   The ProdExp field is not updating when a user follows-up or clears a hazard and the Composer comes up. It remains the issuance time plus the offset time rather than the current time plus the offset time.

10. PX Security patch WuFtpd CAN-2003 vulnerability (DR_14080)

    The March 2004 Quarterly Security Vulnerability scans at the seven representative AWIPS sites and the two AWIPS Test Bed sites discovered one high risk (red) vulnerability and it appeared only on each PX (preprocessor). The new vulnerability is the "WuFtpd" CAN-2003 vulnerability that was previously patched on the Linux workstations in December. This is the first time the PXs could be scanned since the December 2003 version of the Harris SW did not recognize the Advanced Server OS, which was executable on the PX.

11. Three 4-panel radar products cannot be displayed (DR_13989)

    Radar four panel cannot display the following product:

    Comp 0.5 VIL mx
    VIL Comp Max2 Max3
    Tot 1hr 3hr 0.5

    When accessing these products from the **klwx -> four panel -> other** the `IGC_Process` log reported: *Unable to read key: <depict key> from the multiLoad table*.

    The patch update keys in `radarMultiLoadInfo.template` and `radarDataMenus.template`.

12. Problem with All Tilts Z/SRM8 load (DR_13990)

    a. When loading the All Tilts Z/SRM8 product from the KLWX pull-down menu, the .5 refl 4-bit loads and the `IGC_Process` log reports:
       Unable to read DepictKey 0 from dictionary. klwx refl not loaded + klwx SRM 8 not loaded in the legend. After a long pause, the 8-bit refl and SRM will load for that elevation.

    b. The next angle will load - 1.5 refl followed by the same sequence of events:
       Unable to read DepictKey 0 from dictionary. klwx refl not loaded + klwx SRM 8 not loaded in the legend. After a long pause, the 8-bit refl and SRM will now load for that elevation.

The same goes for the rest of the load and then it starts all over again when the new scan data comes in.

13. Workstation `/tmp` directory filling up with zero byte files from D2D (DR_14022)

    The `/tmp` directories on lx2 and lx3 at shv reached a maximum file limit due to tens of thousands of zero byte files created from D2D functions such as VR_Shear. These files remain in `/tmp` long after the application has terminated. The fix prevents this from happening.

14. Data dropouts (missing images) in loops with 4 and 8-bit reflectivity (DR_14032)

    At the OB3 beta site, SGF, they noticed routine data dropouts with 4 and 8-bit reflectivity in standalone or in combination with velocity. In a 12-frame loop they noticed that on average 2-3 random images in the loop were missing after about 30 minutes of time letting new data update. When they reloaded the loop after clearing the pane all data were present. The site reported the longer the loop ran the more frames were missing.

15. WWA: WWA crash if template file missing (DR_14039)

    When selecting a hazard from the composer drop down menu, WWA will crash if the associated template file is not found.

16. WWA: H-VTEC requirement change (DR_14045)

    The H-VTEC requirement has changed. The *ddmmyy* field before the static “T” field was reverted back to its original 6 character format.

    Current H-VTEC: /0.ER.00T0000Z.00T0000Z.00T0000Z.0/
    New H-VTEC: /0.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/

17. QC check for new H-VTEC format (DR_14046)

    To reflect the changes to the H-VTEC requirements, the transmit editor QC algorithm needs to be updated to parse the new H-VTEC line correctly.

18. WWA: Transmit window modifications (DR_14153)

    When transmitting the product, this should include color coded warning message in the transmit window and add a final Yes/No selection before the text is disseminated to the public.

19. Test ship reports should be ignored by SAFESEAS.(DR_14316)

    American and Canadian Coast Guards occasionally generate ship reports for testing purposes. These reports contain "TEST" as a part of the ship's ID. Maintenance Release OB3.1 enables SAFESEAS to ignore these test messages. These reports currently are not ignored by.

20. createSSsetup crashes at some WFOs along the Canadian/Mexican border (DR_14322)

    During SAFESEAS localization, program `createSSsetup` crashes. This only happens at WFOs whose monitoring area is along the Canadian/Mexican borders.

21. Problem with RFC `.dpt` file (DR_14320)

    The RFC version of `radarUtil.csh` does not have the update that allows building depictor tables for radar in the instance where radar static files are in subdirectories. At RFCs, the `.dpt` files that map floating point coordinates from radars to scales do not build.

22. TextDB reader crashes (DR_14353)

    At both IND and SGF, there have been several occasions where the WarnDBDecoder gets behind in processing data when it encounters a TextDB -r crash during a duplicate check. This scenario has been observed several times at both sites. It crashes on different products (6 and 9 letter PILs) and at different times.

23. The local warning performance issue (DR_14324)

    When Local Warnings are loaded or auto-updated, the system gets slower and slower. In the software, the logic is supposed to be in place so rechecking the set of available products would not happen more often than every 60 seconds. This logic was working for the basic product, but was broken for the followup product, which is needed to tell when the product has expired.

24. Listner changes of rcp to scp slowing ingest/dissemination of LDAD data at OB3 sites (DR_14348)

    At the field sites, after the OB3 install, the LDAD ingest/dissemination from the DS to the LS become slow.

25. `/data/fxa_local` filling up (DR_14373)

    When radars are in storm mode and many radars are available for use in LAPS, the disk usage can double due to 12 scans/hr vs. 6 scans/hr in clear air mode.

26. No ITO alarms to the NCF for PX failovers (DR_14349)

    ErrorLogADS is not sending a message to ITO because of two missing environment variables: PROJECT and LD_LIBRARY_PATH

27. `db_purge` failing to delete radar files (DR_14366)

    The `db_purge app` was not built correctly and therefore fails to delete the directory files associated with purged database records in the DPAradar table. This means the files accumulate over time, and after a few weeks/months, this number of files can be significant.

28. Random WarnGen warnings do not appear in the WarnGen followup list (DR_14374)

    Random WarnGen warnings (SVR, TOR, FFW, SMW) do not appear in the WarnGen followup list, also do not appear in the D2D Local Warnings display and therefore it is difficult to issue follow-ups for these products.

A. Pre-installation Requirements

1. WFO sites that use WarnGen operationally should be aware that 48 new WarnGen templates will be delivered in OB3.1. Before installing OB3.1, the WarnGen focal point should verify if any customized WarnGen templates are located in `/data/fxa/customFiles`, including any templates that are specifically for backup sites. More information about the WarnGen changes in OB3.1 is available in Attachment B.
2. ROB3 must be installed. Sites should wait at least 18 hours after installation of OB3 before installing OB3.1, due to the push script in Section D.
3. OB3.1 must be installed prior to Alpha OB4 WWA. (Sites uninstall OB4 WWA before they install the OB3.1 on their systems). If sites install Alpha OB4 WWA without installing OB3.1, the WWA and WarnGen will not communicate with each other and products created in WarnGen or WWA might not be sent to NOAA Weather Radio.
4. IFPS 15.3v2 must be installed at all WFO sites. If sites install OB3.1 without installing IFPS 15.3v2, their WWA Headlines Injector will not function until 15.3v2 is installed.
5. Check http://www.ops1.nws.noaa.gov/awips_softwre.htm web page to see if a lessons learned document is available for this release.
6. Logout of all the D2D sessions on all workstations, including Text Workstations (if present).

This completes the pre-installation procedure.

B. Maintenance Release Installation Procedure

1. Installer must log into DS1 as `root`:
   rlogin ds1 -l root

2. Change to the `/data/local/ROB3.1` directory:
   cd /data/local/ROB3.1

3. Create a script output log file:
   script -a ROB3.1.out

4. This step applies to sites that use WarnGen operationally and/or have customized WarnGen templates in `/data/fxa/customFiles`. Other sites will skip to step 5.

   a. Switch to user `fxa` and cd to the ROB3.1 directory:
      su - fxa
      cd /data/local/ROB3.1

   b. Run the following script to preserve current Warngen template setup.
      ./ob31warngenprep.csh

   c. Exit out of user `fxa` and back to user `root`.
      exit

5. Uncompress the release bundle
   zcat ROB3.1.tar.Z | tar xvf -

6. Run the installation script by typing:
   ./installROB3.1

7. No need to script the output any longer:
   ./stopscript

This completes the maintenance release installation procedure. A post installation localization and push script will be done in Section D.

C. Post Installation Checkout Procedure

1. Check for any files that may not have been removed/copied correctly. Type:

   grep busy ROB3.1.out

   If there is a message, *"cannot write: Text file busy*," the mentioned files will have to be manually copied or removed.

2. Users can log back into their workstations at this time. However, it is preferable that users wait until Section D is completed before logging in. If users do login at this point, it is recommended that users log out of ALL sessions again and back into their workstation following the completion of Section D. This will enable the latest localization changes to take effect.

D. Post Installation Localization

1. To enable the corrections for items #7, #11, and #20, the following steps need to be performed after the installation. Notice that these steps will be done on PX2, instead of DS1.

   Logon to PX2 as user `root`, switch to user `fxa` and then execute a "forced" localization:

   rlogin px2 - l root
   su - fxa
   cd /data/local/ROB3.1
   ./backup_safeseas.csh

   cd /awips/fxa/data/localization/scripts
   ./mainScript.csh f -radar -wwa -safeseas

   cd /data/local/ROB3.1
   ./restore_safeseas.csh
   exit (Back to PX2 as user `root`)

2. Upon successful localization, continue on PX2 as user `root`, and execute the following "push" script:

   cd /data/local/ROB3.1
   script -a -f push_localization_ROB3.1.out
   ./push_localization_ROB3.1
   exit (Terminate script log)
   exit (Back to DS1 as user `root`)

3. Users can log back into their workstations at this time. If the user logged in after Section C, they will need to log out and back in to see the localization changes for items #7, #11, and #20.

E. Post installation Checkout Procedure for WarnGen

NOTE: WarnGen templates have been updated in OB3.1. The following information is generally only applicable to sites that use WarnGen operationally and/or have customized WarnGen templates in `/data/fxa/customFiles`. Please pass this information to the person responsible for WarnGen template modifications.

During the OB3.1 installation, a script was run to preserve the active templates before the OB3.1 templates were delivered. This was accomplished by taking any non-customized templates from nationalData and placing them in `/data/fxa/customFiles` along with the customized templates that were already in customFiles. Therefore, any legacy templates (OB2 or OB1) will still be active after the install. However, a new QC checker was activated to ensure the local warning products (SVR, TOR, FFW, SMW) are following current directives.

1. Verify active local warning templates pass the new QC checker. This includes SVR, TOR, FFW and SMW products. If the QC checker indicates a problem, edit the template to resolve the issue and rerun appropriate localizations.
2. Rerun localization for the site's WarnGen full service backup sites before using WarnGen in backup mode. If the sites have specialized local warning templates for backup sites, test them also to see if they pass the new QC checker.

At this point, the active legacy templates will continue to function with the OB3.1 software. However, **IT IS IMPERATIVE THAT SITES BEGIN CONVERTING TO THE NEW OB3.1 TEMPLATES AS SOON AS POSSIBLE.** More information is available in Attachment B and at the following website: http://www-sdd.fsl.noaa.gov/~ramer/noaa/ob3.1-wgn/ob3.1-wgn.html

It is extremely important that all training and customization, including testing the QC for all customized templates with VTEC activated, be completed well in advance of the National VTEC turn on date. This is currently planned for December 1, 2004.

This completes the maintenance release post installation procedures.

REPORTING INSTRUCTIONS

Report the completed software installation using the Engineering Management Reporting System (EMRS) according to the instructions in NWS Instruction 30-2104, Maintenance Documentation, Part 4, Appendix F. Include the following information on the EMRS Report:

Block #	Block Type	Information
5	Description	Install AWIPS Maintenance Release OB3.1 (patch bundle # MROB3_SEC_A100510)
7	Equipment Code	AWIPS
8	Serial Number	001
15	Comments	Installed Maintenance Release OB3.1 (patch bundle # MROB3_SEC_A100510) I.A.W. AWIPS Software Installation Instruction Note 48.
17a	Mod. No.	S48

A sample EMRS report is provided as attachment A.

Signature Not Verified

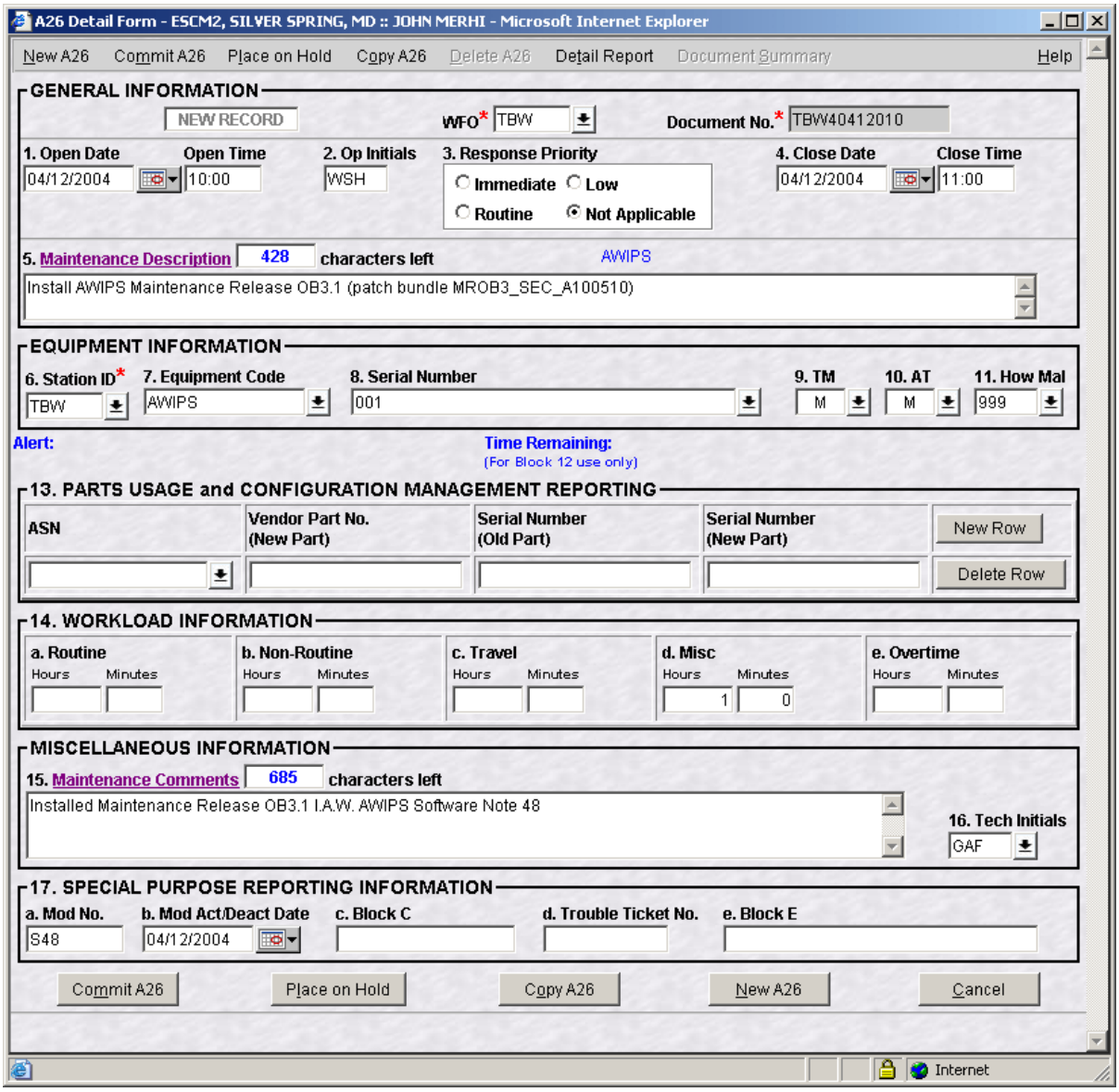
Mark S. Paese

Digitally signed by Mark S. Paese
DN: cn=Mark S. Paese, o=DOC/NOAA/NWS, c=US
Date: 2004.06.03 09:27:22 -04'00'

Mark S. Paese
Director, Maintenance, Logistics, and Acquisition Division

Attachment A - EMRS Report Sample
Attachment B - WarnGen Changes in OB3.1

Attachment A - EMRS Report Sample



Attachment B - WarnGen changes in OB3.1

In OB3.1, 48 new WarnGen templates will be delivered, which will include the new Valid Time Event Codes (VTEC) that will be tested this summer and activated on December 1, 2004. Due to the training and customization issues that result from new template delivery, OB3.1 was designed to preserve, as much as possible, the templates that were active just prior to the install.

However, any legacy templates (OB2, OB1, or earlier) will not work once VTEC is turned on for testing and/or activation. Therefore, sites will need to migrate any customized legacy templates to the OB3.1 templates as soon as possible after the install of OB3.1. It is highly recommended that sites examine what the default OB3.1 templates do first before performing any customizations. An extensive suite of information on the migration, testing, training, and activation is available from the following web page from FSL:

http://www-sdd.fsl.noaa.gov/~ramer/noaa/ob3.1-wgn/ob3.1-setup.html

The first step in the above referenced document mentions steps to take before the installation. The script listed (`ob31warngenprep.csh`) is already included in the maintenance release instructions in Section B, step 4. If all customized templates were placed in `/data/fxa/customFiles` prior to the installation, then this script will strip off all obsolete VTEC references and preserve the templates in a backup directory (`/data/fxa/prev-wgn`).

After the installation is complete, use the documentation referenced above to transition to the new style of WarnGen templates. As you will see in steps 2 through 8, the basic migration plan is to set up one of the WS hosts so it can quickly be converted from using the legacy templates to using the OB3.1 templates and vice-versa. That machine will be used to complete the OB3.1 customization process and to do user training. Once the training and customization are finished, the OB3.1 customized items from that host will be transferred to the rest of the WS hosts on site. Step 9 describes what needs to be done to turn on VTEC operationally. **It is extremely important that all training and customization, including testing the QC with VTEC activated for all customized templates, be completed well in advance of the national VTEC turn on date.** This is currently planned for December 1, 2004.

The following information describes In further detail what the `ob31warngenprep.csh` script does during the installation of OB3.1:

1. The script copies any non-customized baseline OB2 WarnGen templates from `/data/fxa/nationalData/` into `/data/fxa/customFiles`. The baseline OB2 templates will not replace any existing customized templates in customFiles. After running this script, `/data/fxa/customFiles` will contain the site's customized templates and the non-customized baseline OB2 WarnGen templates which existed during OB3. Old VTEC codes for the legacy templates are removed.
2. The script will also back up the OB2 or OB1 legacy WarnGen templates found in `/data/fxa/customFiles` and some WarnGen configuration files into the following

three directories on DS1. The VTEC line found in any legacy template will first be removed before the copy is made into the following directories:

/data/fxa/prev-wgn/localization/LLL
Will contain files *`wwaConfig.template` and *wwa*preWWA from directory `/awips/fxa/data/localization/LLL` on DS1, where the script is run.

/data/fxa/prev-wgn/customFiles
Will contain file `makeWWAtables.patch` from `/data/fxa/customFiles`, and have all *wwa*preWWA files from /data/fxa/customFiles.

/data/fxa/prev-wgn/localization/nationalData
Will contain files *`wwaConfig.template` and *wwa*preWWA from `ds1:/data/fxa/nationalData`.

Sites will be able to use the files for reference. However, remember that immediately after OB3.1 install, all legacy templates will be in `/data/fxa/customFiles` and all new delivered OB3.1 templates will be in `/data/fxa/nationalData`.

More information, if necessary, will be added to the lessons learned document for OB3.1 at http://www.ops1.nws.noaa.gov/awips_softwre.htm